59.   The method of claim 58, further comprising the steps of:

transmitting said alignment time from said telemetry device to said collector in a

transmission;

determining a receipt time representing the time said collector receives said transmission;

and

subtracting said alignment time from said receipt time to generate a time representing the

measurement time of the most recent measurement in the transmission.

60.   The method of claim 52, wherein said parameter is selected from the group

consisting of electrical power, fluid flow, voltage, current, temperature, pressure, and humidity.

61.   (Amended) A method of collecting data comprising the steps of:

receiving a series of successive measurements from a series of transmissions from a

telemetry device;

storing and filtering the series of successive measurements by a pathway device

connected to a LAN transceiver capable of receiving the series of transmissions; and

transmitting the filtered data as packets through an internet connection to a remote center

for generation of a metered output function at the remote center.

62.   The method of Claim 61, wherein the remote center comprises a date processing

center.

63.   The method of Claim 61, wherein the remote center comprises a customer site.

REMARKS

Claims 1-63 are pending. Claim 6 is objected to. Claims 1-5 and 7-63 are rejected.

Claims 1, 18, 28, 41, 47, 49, 51, 52, 61 are independent claims.   Applicant respectfully requests

reconsideration based on these remarks.

Claims 1, 41, 49 and 52 are rejected as anticipated by Jenney (US 5, 897, 607). Claim 18, 28, 47, and 61 are rejected as obvious in view of Jenney and Schanker (US 5,448, 230). Claims 1, 18, 28, 41, 47, 49, 51, 52 and 61 have each been amended. Applicant respectfully traverses this rejection because Jenney and Schanker, separately or combined, fail to disclose at least one element of each of the cited claims.
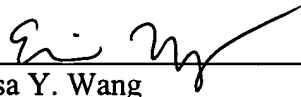
Jenney fails to disclose "forward[ing] transmissions as packets over an Internet connection," as recited by claim 1; instead, the transmissions in Jenney are in the form of "raw (meter pulse counts) data" (Col. 11 line 27). For at least this reason, claim 1 is allowable.

Claims 18, 28, 41, 47, 49, 51, 52 and 61 are allowable for at least same reason given for claim 1.

Attached is a marked-up version of the changes being made by the current amendment. Applicant asks that all claims be allowed. Applicant petitions for a three month extension of time up to and including December 19, 2001. Enclosed is a check in the amount of $920.00 for the Petition for Extension of Time fee. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 12-19-01

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Version with markings to show changes made

In the specification:

Paragraph beginning at page 1, line 13, has been amended as follows:

"This application claims the benefit of the earlier filing date of U.S. Patent Application No. 09/470,258, filed on Dec. 22, 1999 and converted to a Provisional Application by petition under 35 CFR 1.53(c) (1) on March 17, 2000. The entire disclosure of the above-mentioned application is incorporated herein by reference. This application is also a continuation-in-part of [U.S. Patent Application No. 08/597,724] U.S. Patent Application No. 6, 195,018, filed on February 7, 1996, the entire disclosure of which is incorporated herein by reference."

Paragraph beginning at page 14, line 24 has been amended as follows:

"In another embodiment, the pathway devices 40-42 can analyze the periodic measurements by one or more meters 10-17 to generate a metered function. The generation of metered functions at the collection device level is described in above-identified [U.S. Patent Application Serial No. 08/597,724] U.S. Patent No. 6, 195,018."

Paragraph beginning at page 18, line 6 has been amended as follows:

"Sensor 34 and other components of meter 10 are described in more detail in above-identified [U.S. Patent Application Serial No. 08/597,724] U.S. Patent No. 6, 195,018."

In the claims:

Claims 1, 18, 28, 41, 47, 49, 51, 52 and 61 have been amended as follows:

1.   (Amended) A data collection system comprising:

       a)   a plurality of telemetry devices, each telemetry device including:

              i)   a sensor configured to generate a series of successive measurements by measuring a parameter at a series of measurement times,

              ii)   a memory configured to store a plurality of measurements from said series of successive measurements, and

              iii)   a transmitter configured to transmit measurements stored in memory to a collection device at a series of transmission times; and

       b)   a plurality of collection devices, there being fewer collection devices than telemetry devices, each collection device including:

              i)   a hub to receive transmissions from the sensor, and

              ii)   a network device to forward at least a subset of a series of said transmissions as packets over an internet [network] connection to a data processing center to generate an output function.

2.   The data collection system of claim 1, wherein the network connection comprises an internet connection.

3.   The data collection system of claim 1, wherein said network device further comprises an internet interface.

4.   The data collection system of claim 3, wherein said Internet interface further comprises an e-mail client, a Hypertext Transmission Protocol (HTTP) server, and a telnet daemon.

5.   The data collection system of claim 1, further comprising an e-mail server.

6. The data collection system of claim 1, wherein said sensor comprises:

a counter to store a value;

means for incrementing said counter upon receipt of a trigger signal; and

means for storing said value from said counter in said memory and resetting said counter at said measurement times.

7. The data collection system of claim 1, wherein said telemetry devices further comprise a first timer having a predetermined time interval, wherein the expiration of said predetermined time interval causes said sensor to generate a measurement.

8. The data collection system of claim 1, wherein said hub comprises a radio-frequency local area network (LAN) transceiver.

9. The data collection system of claim 1, wherein said hub comprises a radio-frequency local area network (LAN) receiver.

10. The data collection system of claim 1, wherein said hub comprises a power line carrier LAN transceiver.

11. The data collection system of claim 1, wherein said network device is electronically connected to the hub.

12. The data collection system of claim 11, wherein the network device is serially connected to the hub using Recommended Standard-232 (RS232).

13.   The data collection system of claim 1, wherein said parameter is selected from the group consisting of electrical power, fluid flow, voltage, current, temperature, pressure, and humidity.

14.   The data collection system of claim 1, wherein the series of measurements are selected from the group consisting of a pulse count, an analog voltage, a current level, and a multi-byte digital value.

15.   The data collection system of claim 1, wherein the data processing center forwards one or more commands through the network connection to the hub.

16.   The data collection system of claim 15, wherein the one or more commands contain configuration information.

17.   The data collection system of claim 15, wherein the hub passes the one or more commands to a subset of the plurality of telemetry devices.

18.   (Amended) A method of collecting data comprising the steps of:
        receiving a series of successive measurements from a series of transmissions from a telemetry device;
        storing and filtering the series of successive measurements; and
        transmitting the filtered data as packets through an internet connection to a processing center.

28.   (Amended) A network device connected to a receiving device configured to collect data generated by a plurality of sensors, comprising:
        a micro-processor to process data generated by the plurality of sensors and collected by the receiving device, including time-stamping and filtering;
        at least one storage device to store at least a subset of processed data; and

a transmitter to transmit data <u>as packets</u> through an internet connection to a data processing center.

41.   (Amended) A network device configured to collect data generated by a plurality of sensors, comprising a computer program, residing on the device, the computer program comprising instructions for causing the device to:

interface with a LAN device, the LAN device receiving data from the plurality of sensors;

store and forward data; and

interface <u>an internet</u> [network] connection to transmit data <u>as packets</u> to a remote center.

47.   (Amended) A data collection system, comprising:

a plurality of sensors residing in a meter, each of the plurality of sensors being configured to sample a parameter value at discrete measurement times and including a transmitter configured to transmit measured data; and

a collector having a receiver configured to receive data transmitted by the plurality of sensors, a processor configured to filter and store data received by the receiver from the plurality of sensors, and a transmitter configured to transmit the filtered data <u>as packets</u> to a monitoring station for processing by an internet connection.

49.   (Amended) A data collection system, comprising:

a plurality of measurement sensor means each located near a consumer of electricity for measuring data relating to consumer usage of electricity and for transmitting the measured electricity usage data; and

a collector means having a receiver for receiving electricity usage data transmitted by the plurality of sensor means, a processor for computing electricity usage information from electricity usage data received by the receiver, and a transmitter for transmitting the electricity usage information <u>as packets</u> to a remote center through an internet connection.

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51.   (Amended) A network for collecting data generated by a plurality of sensors, comprising:

      a)   a plurality of data generating devices including:

          i)   a sensor to measure a parameter to generate measurements,

          ii)   a memory configured to store said measurements, and

          iii)   a transmitter to transmit said stored measurements to an intermediate device at a plurality of transmission times; and

      b)   a plurality of intermediate devices, there being fewer intermediate devices than data generating devices, said intermediate devices including:

          i)   a receiver to receive transmissions from a subset of said plurality of data generating devices,

          ii)   a processor to filter said measurements from said transmissions and analyze said measurements to generate a metered function of the parameter, and

          iii)   a transmission module to transmit the metered function <u>as packets</u> over an internet connection; and

      c)   a data station remote from the plurality of intermediate devices to receive transmitted meter functions from said plurality of intermediate devices.

52.   (Amended) A method of collecting data comprising the steps of:

      a)   generating measurements by measuring a parameter using a telemetry device;

      b)   storing a plurality of said measurements in a memory;

      c)   transmitting said stored measurements to a collection device;

      d)   processing said transmitted measurements at the collection device; and

      e)   transmitting, under a plurality of triggering conditions, said processed measurements <u>as packets</u> to a monitoring station by <u>an internet</u> [network] connection.

61.   (Amended) A method of collecting data comprising the steps of:

      receiving a series of successive measurements from a series of transmissions from a telemetry device;

storing and filtering the series of successive measurements by a pathway device connected to a LAN transceiver capable of receiving the series of transmissions; and

transmitting the filtered data <u>as packets</u> through an internet connection to a remote center for generation of a metered output function at the remote center.